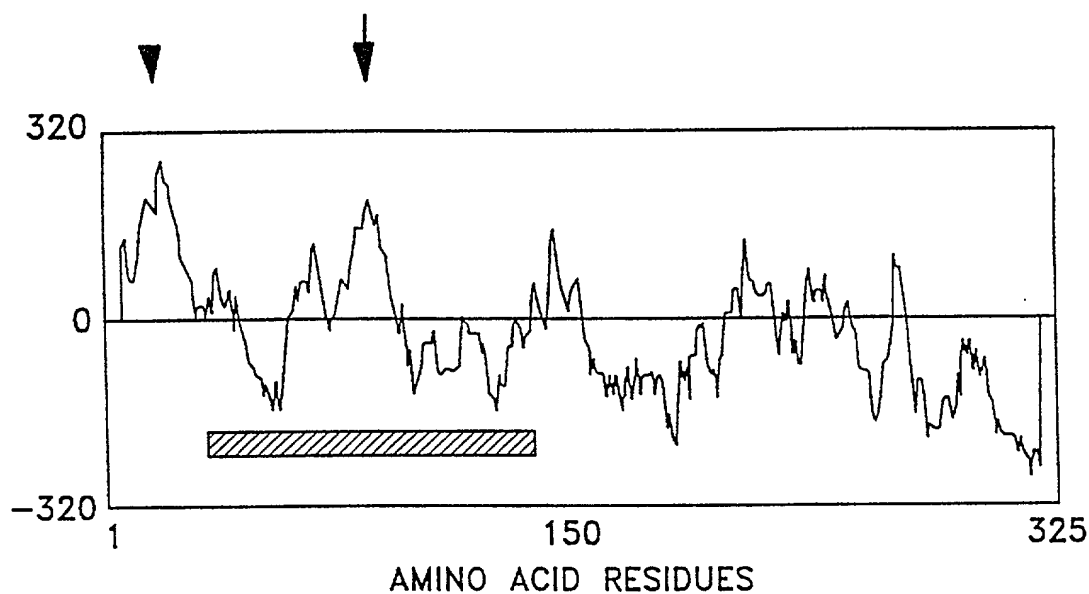


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 CATCTGCCG AGATCATGGT CTGCGGGAGC CGAGCGGGA TGCTGCTGCT GCGGCGGG CTACTCGCC CTGCTGCTC GCGTGGCG GAGCGGGG GCGGCGCTGT
 M V C G S R G G M L L L P A G L L A L A A L C L L R V P G A R A A A A C 35
 GAGCCGCTT GCATTCCTT GTCAGTCC CTGCGCTGGA ACATGACTAA GATGCCAAC CACCTGCACC ACAGCACCCA GGCACAGCC ATCTGGCCA TCGAGCAGTT CGAAGTCTG
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 L G T H C S P D L L F F L C A M Y A P I C T I D F Q H E P I K P C K S V C E R A 115
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 R Q G C E P I L I K Y R H S W P E S L A C E E L P V Y D R G V C I S P E A I V T 155
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 CACTGGCCTG CACTTTATCA TTGGAATTG TGCTGTTTAA ATATGCTTA ATAAAGGAA AAAAATAAAA AAAAAAATAA

FIG. 1

bovine	MVCGSR	<u>EGML LLPAGLLALAL ALCLLR</u>	PGA	RAAACEPVRI	PLCKSLPWNM	50
human	-----P-----	-----R-----				50
bovine	TKMPNHLHHS	TQANAILAIE	<u>QFEGLLGTHC</u>	<u>SPDLLFFLCA</u>	<u>MYAPICTIDF</u>	100
human	-----	-----	-----	-----	-----	100
bovine	QHEPIKPCKS	VCERARQGCE	PILIKYRHSW	PESLACEELP	VYDRGVCISP	150
human	-----	-----	-----	--N-----	-----	150
bovine	EAIVTADGAD	FPMDSSNGNC	RGASSERCKC	KPV RATQKTY	FRNNYNYVIR	200
human	-----	-----	-----	--I-----	-----	200
bovine	AKVKEIKTKC	HDVTAVVEVK	EILKASLVNI	PRETVNLVTS	SGCLCPPLNV	250
human	-----	-----	-----S-----	--D-----	-----	250
bovine	NEEYLIMGYE	DEERSRLLL	EGSIAEKWKD	RLGKKVKRWD	MKLRHLGLNT	300
human	----I-----	-----	-----	-----	-----SK	300
bovine	SDSSHSDSTQ	SQKPGRNSNS	RQARN			325
human	----N-----	---S-----P	----			325

FIG.2A



N C C P P C CCPP

FIG.2B

Rat fz-1	CEPITISIPLOT	DIAYNQITMP	NLIGHINQED	AGLEVHQFYP	IIVKVQCSAEL	160
Drosophila frizzled	CEPITISICK	NIFVNMHMP	NLIGHTRQEE	AGLEVHQEAP	IIVKIGCSDDL	102
bovine frzb	CEPVRIPFLCK	SLEFNNITKMP	NHIFHSTQAN	ALLAIEQFEG	ILGTHCSPDL	84
human frzb	CEPVRIPFLCK	SLEFNNITKMP	NHIFHSTQAN	ALLAIEQFEG	ILGTHCSPDL	84
	*				*	
Rat fz-1	KFFLCSSMAP	VCTVLEQALP	--PCRSLCES	A--CCCEALMN	KFGFQWPDIL	207
Drosophila frizzled	QIFLCSSMAP	VCTILERPDP	--PCRSLCES	AR-VCEKLMK	TYNFNWPEAL	149
bovine frzb	IFFLCAMMAP	ICTIDDFQHEP	IKPCKSVCEP	APQCEPILI	KYRHSWPESL	134
human frzb	IFFLCQMYAP	ICTIDDFQHEP	IKPCKSVCEP	APQCEPILI	KYRHSWPENL	134
	*	*	*	*	*	
Rat fz-1	KCEKFPVHGR	CEILC				221
Drosophila frizzled	ECCKFPVHGG	EDLC				163
bovine frzb	ACEEIPVYDR	G-VC				147
human frzb	ACEEIPVYDR	G-VC				147
	*	*				

FIG. 3

xFrzb bFrzb hFrzb Consensus	* X		46 50 50 50
	MSPTKLDSE	YVIVIP GVLLENA YVACEPVRI PCKSLPWNM	
	MVCGSRGGM	LLPAGLIAA ALDILRVEGA RAACEPVRI PCKSLPWNM	
	MVCGSPGGM	LLRAGLIAA ALDILRVEGA RAACEPVRI PCKSLPWNM	
xFrzb bFrzb hFrzb Consensus	TKMPNHLHHS	TOANAIIAIE QFEGLIHHC SDDLFFLCA MYAPICTIDE	96 100 100 100
	TKMPNHLHHS	TOANAIIAIE QFEGLIHHC SDDLFFLCA MYAPICTIDE	
	TKMPNHLHHS	TOANAIIAIE QFEGLIHHC SDDLFFLCA MYAPICTIDE	
	TKMPNHLHHS	TOANAIIAIE QFEGLIHHC SDDLFFLCA MYAPICTIDE	
xFrzb bFrzb hFrzb Consensus	QHEPIKPKCS	VCERARQCE PILIKYRHSW PESLACEHP VYDRGVCISP	146 150 150 150
	QHEPIKPKCS	VCERARQCE PILIKYRHSW PESLACEHP VYDRGVCISP	
	QHEPIKPKCS	VCERARQCE PILIKYRHSW PESLACEHP VYDRGVCISP	
	QHEPIKPKCS	VCERARQCE PILIKYRHSW PESLACEHP VYDRGVCISP	
xFrzb bFrzb hFrzb Consensus	AEIVTECGT	DSMPDFPMD SNGNCRGASS ERCKCKPRA SOKTYLNNY	196 195 195 200
	EAIVTAD-G	---ADFRMDS SNGNCRGASS ERCKCKPRA SOKTYLNNY	
	EAIVTAD-G	---ADFRMDS SNGNCRGASS ERCKCKPRA SOKTYLNNY	
	EAIVTAD-G	---ADFRMDS SNGNCRGASS ERCKCKPRA SOKTYLNNY	
xFrzb bFrzb hFrzb Consensus	NYVIRAKVKE	IKIKCHDVTA VEVKEILKS SLVNIHRTV ILYTSSGCLC	246 245 245 250
	NYVIRAKVKE	IKIKCHDVTA VEVKEILKS SLVNIHRTV ILYTSSGCLC	
	NYVIRAKVKE	IKIKCHDVTA VEVKEILKS SLVNIHRTV ILYTSSGCLC	
	NYVIRAKVKE	IKIKCHDVTA VEVKEILKS SLVNIHRTV ILYTSSGCLC	
xFrzb bFrzb hFrzb Consensus	IMGYEDEERS	IMGYEDEERS RULLVEGSLA EKVDRIGKK VKRWDIKLRH	296 295 295 300
	IMGYEDEERS	IMGYEDEERS RULLVEGSLA EKVDRIGKK VKRWDIKLRH	
	IMGYEDEERS	IMGYEDEERS RULLVEGSLA EKVDRIGKK VKRWDIKLRH	
	IMGYEDEERS	IMGYEDEERS RULLVEGSLA EKVDRIGKK VKRWDIKLRH	
xFrzb bFrzb hFrzb Consensus	SKDSTQSKPG	SKDSTQSKPG RNSNSRQARN	319 325 325 330
	SKDSTQSKPG	SKDSTQSKPG RNSNSRQARN	
	SKDSTQSKPG	SKDSTQSKPG RNSNSRQARN	
	SKDSTQSKPG	SKDSTQSKPG RNSNSRQARN	

FIG. 4

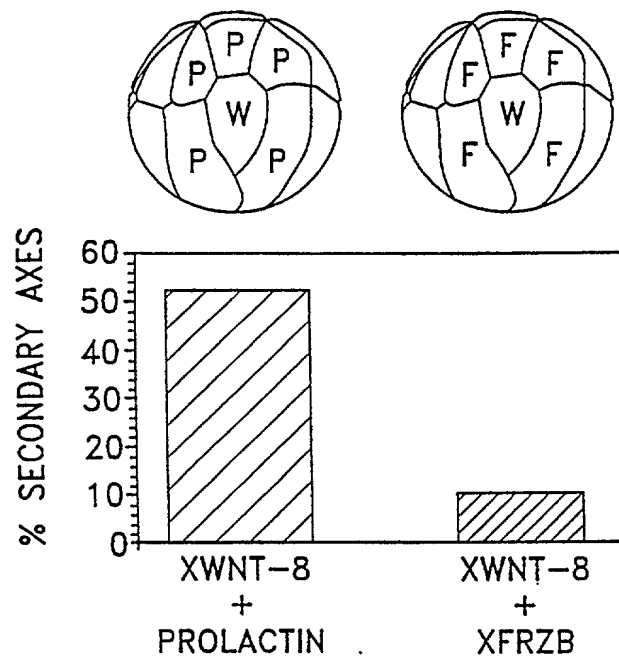


FIG.5

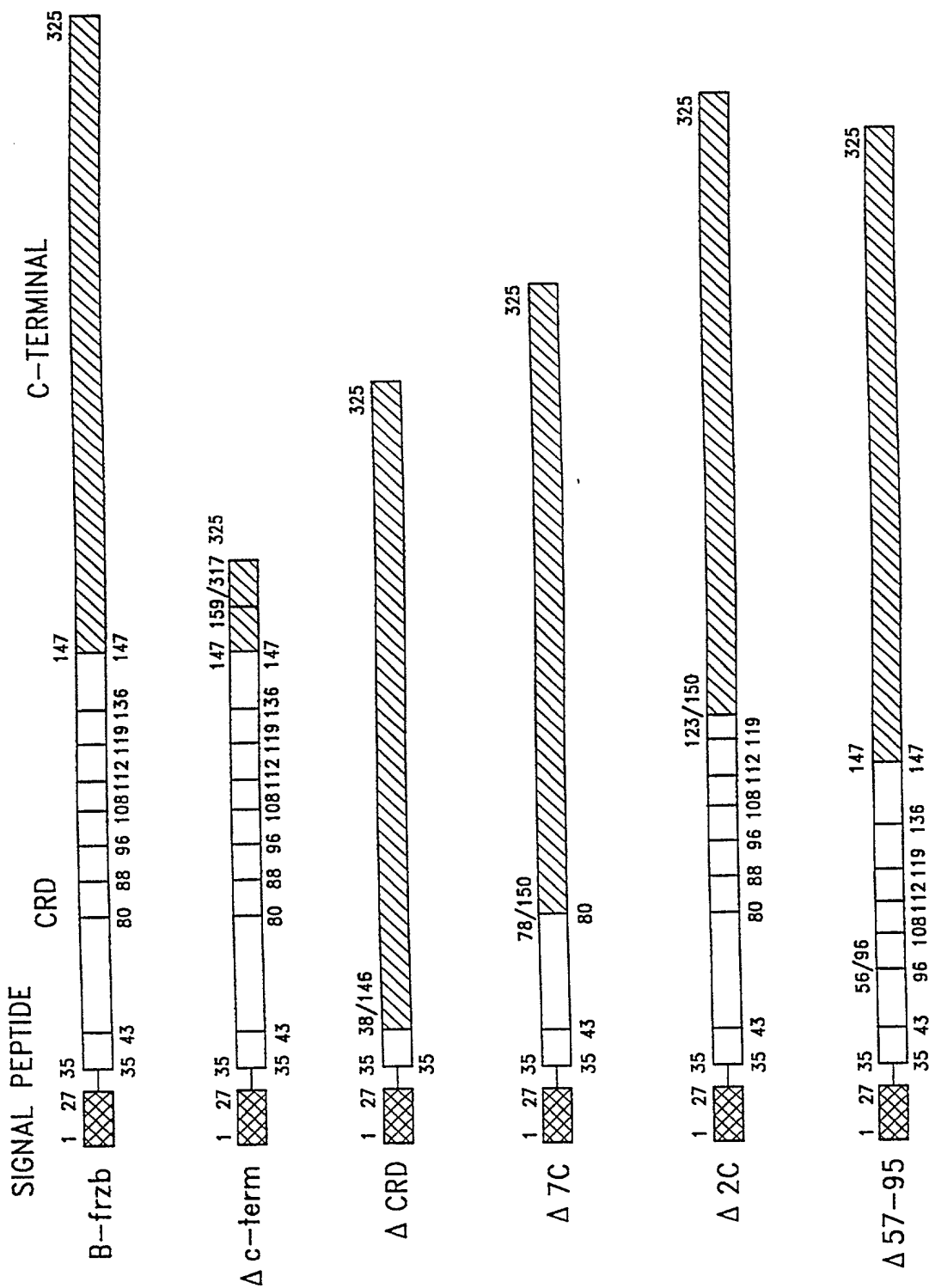


FIG.6

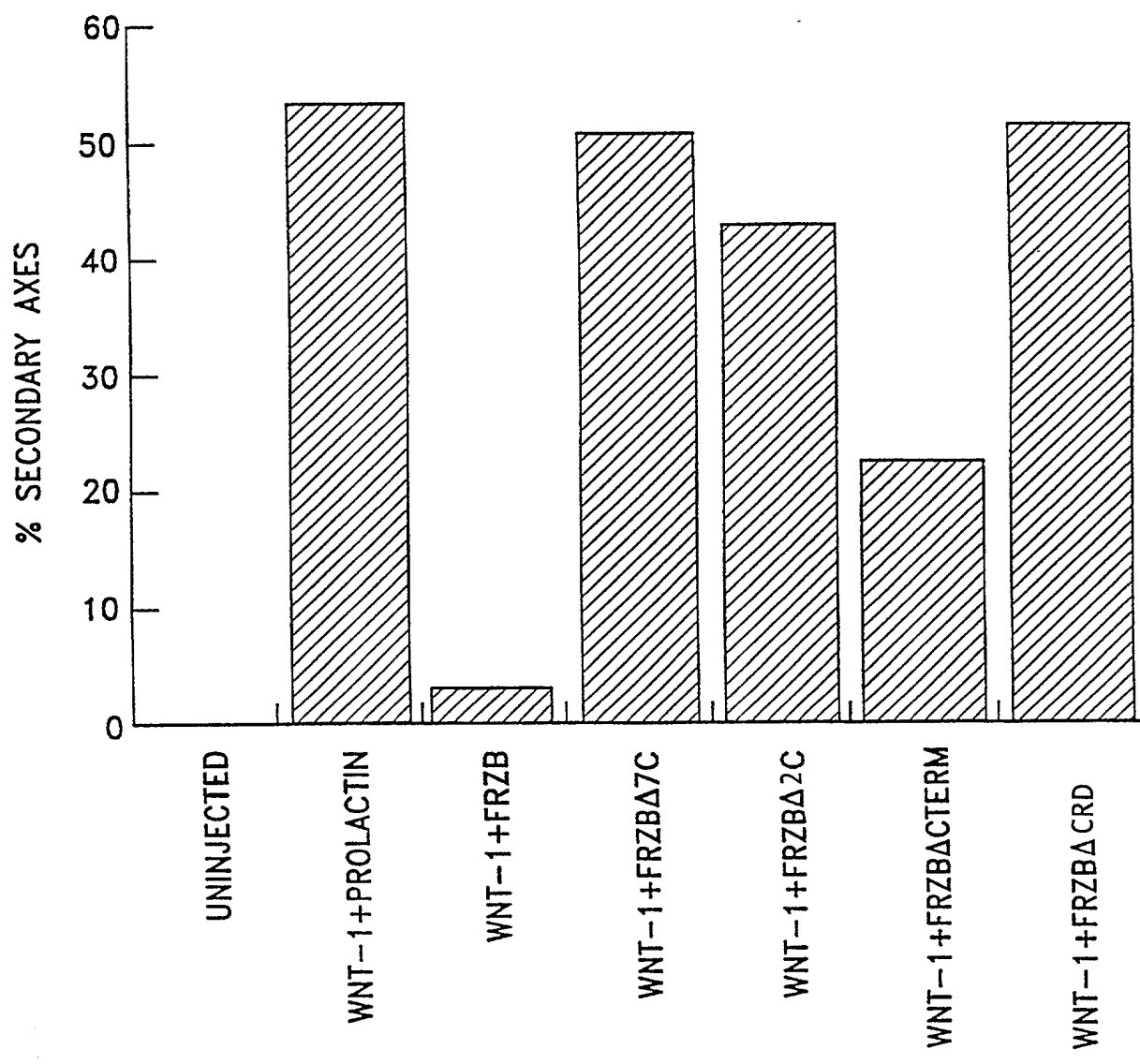


FIG. 7